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ABSTRACT

College students from minority groups in the United States, Canada, and Tanzania were asked how they could be helped to learn effectively in a university mainstream culture. Eleven groups of undergraduate students and six groups of graduate students were involved in the study over 7 years, with the number of students per group ranging from 11 and 25 at the undergraduate level and between 7 and 29 at the graduate level. Five groups were studied in Tanzania in 1993, 2 in Canada in 1994 and 1995, and 10 in the United States between 1996 and 2000. Content analysis of the data indicated that students were interacting with unique sets of factors culturally, financially, linguistically, socially, psychologically, and emotionally in ways that affected their academic functioning directly and indirectly. Several strategies emerged from all three countries as ways to facilitate effective learning among minority students from diverse backgrounds. Seeking information from students helped indicate how best to approach classroom learning activities. Open and unbiased discussions in class, writing exercises, action research, personal histories and experiences, and other ways that acknowledge students' differences were found to be invaluable tools for facilitating effective learning among the minority students. (Contains 1 table and 18 references.) (SLD)

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TEACHING AND LEARNING STRATEGIES THAT PROMOTE ACCESS, EQUITY AND EXCELLENCE IN UNIVERSITY EDUCATION

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Abstract

Studying the learning strategies of graduate and undergraduate students from many different backgrounds in Tanzania, Canada and the United States, the researcher hypothesized that "minority" students might be facing challenges that could negatively affect their academic learning. During her 25 years total teaching experience at many levels of schooling, the researcher experimented with a repertoire of strategies in teaching minority students, in effort to enhance effective learning. Some of the strategies worked well, and others did not. Between the years 1993 and 2000 the researcher developed, compiled, used and refined a set of strategies that worked best with minority students. Most of the researcher's minority students managed to learn effectively within and outside the classroom, despite cultural, socio-economic ethnic and language barriers.

Data were collected through observations, formal and informal discussions, student interviews and questionnaires. The data collected over a three-year period in the Unites States (1996-2000) were compared to data collected in 1993 in Tanzania, and data collected in 1994 -1995 in Canada. Despite the time lapse, and geographical differences, there were close similarities in the students' comments and suggestions as to how they could be helped to learn effectively in a university mainstream culture. Content analysis of the data indicated that the students were interacting with unique sets of factors culturally, financially, linguistically, socially, psychologically and emotionally, in ways that affected their academic functioning directly and indirectly. Most students thought some of their instructors did not quite understand the students' backgrounds and needs. The instructors made wrong assumptions

about the minority students and often underestimated their efforts and learning capacities compared to the mainstream students.

Several strategies emerged prominently as ways to facilitate effective learning among minority students from different backgrounds. Seeking information from the students on a continued basis helped indicate how best to approach classroom learning activities. Open and unbiased discussions in class, writing exercises, action research, personal histories and experiences, their accumulated ways of knowing, instructor flexibility, instructor's attitudes towards different languages and cultures as well as instructor broad-mindedness were found to be invaluable tools for facilitating effective learning among the minority students.

The researcher suggests various approaches to achieve better understanding of students from minority cultures, and how to utilize their unique experiences as rich sources for, and NOT barriers to, effective learning of graduate and undergraduate degree curricula. The researcher proposes three emerging theories, *open-door equity theory*, *connectivity equity theory*, and *feedback equity theory*, to use as guides to better serve the needs of minority students.

Introduction

In theory, teaching fosters learning. However, what goes on between the teacher and the learners in order for learning to occur cannot be predetermined absolutely. Passmore (1980) claims that it is not fallacious for those engaged in the preparation of teachers to keep reminding themselves that everybody teaches, and that some people who are not trained to teach, teach very well. But what is teaching? Why does teaching lead to learning in some instances and in others it does not? For teaching to cause learning, there has to be a certain degree of matching within the interactions of the two parties - the teacher and the learner. How is this degree of matching brought about? Is there a formula for creating, within classroom interactions, the necessary click that facilitates learning among individual learners?

Teaching involves more than classrooms, materials, trained teachers, curriculum, pre-determined procedures, supervision, testing. Effective teaching takes the teachers' personal initiative, creativity, imagination, determination and commitment to examine and decide on the myriad of possible means to make learning occur not among a group of learners, but in every learner, as defined by the learner. The effective teacher makes learning not only possible, but desirable, enjoyable and worth striving for. Among all the factors that affect teaching, the teacher is the single most influential element in the classroom that can manipulate all other elements to fit the prevailing situation at a particular time and context, in order to attract learning.

University students are adult learners. While this factor may be an advantage on the part of the professor, it can also work against the professors because adult students can read both the spoken and the unspoken messages more easily compared to younger learners. Every learner comes to a university campus with a relatively clearer goal than do high school, elementary, or younger students. Implementation of the university curriculum therefore, would also involve some kind of negotiation of what is to be learned, how, and for what purpose. Although university students make considerable decisions on

their own - about their programs, their courses and timing, the actual learning activities in the classroom however, call for explicit or implicit agreement of what is to be taught and supposedly learned.

Traditional university teaching assumes specific levels of academic ability among the students before they join their programs of interest. Students have to qualify for the programs, and evaluations are carried out through testing, grade point averages, or other types of screening. Since all entrants must qualify for the program, it is tempting on the part of instructors to assume academic similarity among students, thus teaching the group rather than the individual.

University enrolment may not only be on the rise, but probably also more diversified. The increasing ease of mobility around the world, challenging life styles, rising costs of living and self determination call for higher education among greater numbers of young and older adults, who want to seek a better life in a competitive world, through university education. It is becoming more and more unrealistic to assume that most students on a university campus will have similar backgrounds economically, age-wise, socially, culturally, linguistically or even their attitude towards education. For the student who struggles hard (financially, culturally, etc) to get admission into a university program, university education may have a higher priority than for a student who faces less serious challenges to join the program. The latter may take it for granted. Mushi (1999b) found out that minority students learned some aspects of technology faster and more efficiently than mainstream students.

Enrolling students with widely differing characteristics imply more challenge on the part of the professor, if the goal is to ensure that teaching facilitates learning among individual learners, as defined by the learners themselves. Teaching, being a moral activity, calls for fairness in creating adequately conducive environments for learning among all members of a group. Even in cases where policies do not clearly stipulate equity, the effective teacher feels the obligation to fulfil every student's quest for learning.

Every individual learner is unique. The professor is also unique. How can the professor adjust teaching and learning interactions to meet the needs of learners from all walks of life? What are the resources available for the professor to make these adjustments? Should professors be re-trained to match the changing demographics of students? What teaching principles work best for minority students, and why?

Effective teachers consider teaching as a reflective activity (Schon, 1983; 1987; Shulman, 1987). This implies that the best source for learning how to teach is teaching. Rather than professors assuming that they provide students with knowledge, they need to examine what actually takes place during teaching-learning sessions, how students perceive those interactions, what students think they have learned from the session, and how experiences of one teaching/learning session affects another. This level of reflectivity is the best teacher of how to teach not only the mainstream students, but each individual student. Teaching a group of students as if they were all alike in all aspects is doing injustice to non-mainstream students, to the teaching process and profession, and also to assessment practices. Exploring the ways in which minority students learn best will help make teaching more meaningful to them.

This study focuses on strategies that facilitated effective learning among students who perceived themselves as minorities on university campuses. Their self-perceptions of being minority were based on ethnic, economic, cultural, linguistic and/or social differences. The researcher used her class sessions as the major sources for learning about teaching the minority students. Informal discussions with professors who had experience teaching minority students supported the findings of the study. The rest of the chapter is organized in five main parts: conceptual framework, methods, findings, discussion and a concluding summary.

CONCEPTUAL FRAMEWORK

Classroom research has indicated that students at all levels learn in different ways. Different intelligencses (Gardner, 1983, 1991, 1993) are becoming more and more recognized. Howard Gardner identifies eight intelligences, that determine the ways in which different individuals learn: Linguistic intelligence, logical mathematical intelligence, spatial intelligence, bodily kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence and naturalist intelligence. The eight intelligences however, indicate the spheres of emphasis, rather than clear-cut categories of learning capacities. Students with high linguistic intelligence would benefit more from a class debate than students with high intrapersonal intelligence. For the visual learner for example, a long lecture on the subject matter would be difficult to process. Visual learners (spatial) will benefit from charts, tables, maps, scattergrams, clusters, than linguistic learners. Students with high interpersonal capacities will benefit more from a service project than students with high capacities in bodily kinesthetics, who would benefit more from movements, puzzles, construction, trips, etc (Nitko, 2001).

Other factors that affect learning include field dependence versus field independence, reflectivity versus impulsiveness, and level of tolerance of ambiguity (Piper, 1993); lateralization of the brain (Trawick-Smith, 1997; Berk, 1999,), and Maslow's hierarchy of needs (Maslow, 1954; Bennett, Lingerfelt, & Nelson, 1990),

Field dependent people tend to see the individual unit within the whole, while field independent people may focus on the individual unit, overlooking the big picture. Field dependent students would be: more aware of the whole than its parts and more socialized in interaction with others. They would have difficulty making sense of the individual outside the context of the whole.

Field independent people may tend to be more interested in the particular within a unit, more able to concentrate on task- not easily distracted by

peripherals, very analytical - they break down components of the problem, can overlook the overall picture, and may tend to be more independent, confident and competitive.

Some people can tolerate ambiguity more than others (Piper, 1993). Those who can tolerate ambiguity see the world in a continuum (not either/or), they are open in accepting different ideologies, more open for new learning experiences, especially language learning. They may find it difficult to take a stand or filter out incorrect information.

Individuals who are intolerant of ambiguity see the world in absolute (either/or) terms, they cannot endure uncertainty, they stick to their own beliefs and practices, and they may limit their creativity. They tend to reject behavior that is inconsistent with their own, for example, a new culture, a new language, or new ways of doing things. They face difficulties in pursuing the overwhelmingly ambiguous process of learning a second language (Piper, 1993; Mushi 1996), and/or a new culture.

Reflective individuals tend to think about their learning processes and what those processes mean to them. They can relate their classroom learning to their everyday life, and they can adjust their learned experiences to new, real life situations. Impulsive individuals will tend to react immediately, without much thought; they may react almost automatically to a situation by applying some principles that they perceive as universal.

Lateralization of the brain, that is, left-brained and right-brained is a matter of emphasis, and not exclusive, dichotomous categories. Right-brained individuals may tend to: be field dependent, respond intuitively, show emotions, remember faces better than names, spontaneous, less organized, reliant on images for thinking and very creative. They prefer synthesis than analysis, and open-ended test items. Left-brained individuals on the other hand tend to: be field independent, respond intellectually, control feelings, remember names, plan and organize, rely on language rather than images for thinking and

remembering, and they prefer talking and writing. They are analytical in their reading, they favor logical problem solving, prefer objective test items such as multiple choice to open-ended test items.

Maslow's Hieirarchy of Needs* provides at least five levels of needs according to importance. The basic needs must be met before the other needs can become apparent.

Level	Needs
1	Basic psychological needs - to satisfy hunger, thirst and sex
2	Safety needs - security, stability and order
3	Belonging, love needs - affection, affiliation, identification
4	Esteem needs - success, self-respect
5	Self actualization - the need to realize one's true potential in life

*Developed from Maslow's pyramid of needs cited in Benett, Lingerfelt & Nelson, (1990:46).

Another categorization differentiates among needs, wants and wishes, denoting different degrees of desire and necessity (Benett, Lingerfelt & Nelson, 1990: 45). Minority students may have certain academic needs, for example, mastering the language of instruction or learning how to summarize literature, but may tend to want to engage in other activities of less academic importance to their fields of specialization, but which helped them in their everyday economic survival.

All the above-mentioned factors, that is, Gardner's eight intelligences, field dependence or independence, the degree of tolerance of ambiguity,

reflectivity or impulsivity, brain lateralization and Maslo'w Hierarchy of Needs, imply interference with, or shaping of, the individual's learning processes. Rigid teaching styles and strategies that focus on universal principles derived from the mainstream culture assume unrealistic uniformity among students. Mainstream professors may adhere to those principles with little or no realization that they are communicating effectively with only a portion of the class, the mainstream students. Not many professors learn how to teach prior to their job appointments at university level. Some professors learn teaching on the job.

Students come to university classrooms with different personalities, attitudes towards education and learning, needs and wants, ability to learn, different learning styles, different goals and different perceived ways of achieving them. The university curricula however, are fixed. There are sets of predetermined theories, knowledge and skills that students are required to learn effectively at undergraduate and graduate levels in order to graduate from their programs. While the curricula are fixed, the professors who teach the courses are individuals with their own ways of learning and teaching, and who enter their teaching tasks with different teaching capabilities.

In addition to mainstream students' individual characteristics, the fixed curricula and the unique professor, the minority student brings in a comparative aspect in terms of the important values that characterize the society in question. In a society where ethnicity and physical appearance explicitly or implicitly determine the status or even the worth of individuals (for example, skin complexion, hair color, eye color etc), a student who does not look like the mainstream students will have an additional aspect of "fitting in" to deal with, on top of pursuing studies in an already complex environment. While every student is different from every other student, a student who perceives herself/himself as "minority", will have feelings of being singled out in terms of physical appearance even for mere identification. One's biological make-up is by no means a justification for feelings of discomfort. However, an insensitive main stream culture may

imply it is, by subconsciously attaching some unnecessary negative connotations to it. For example, a professor may make a supposedly genuine statement like "I enjoyed my class this past semester; even the black students did very well". While the professor is trying to be sincere here, the statement has a hidden, subconscious connotation that black students do not normally do well. Black students hearing this statement would perceive that not much is expected of them academically. They might end up putting less effort in their studies and performing poorly compared to their counterparts.

The minority student may bring to campus another aspect of comparison. If the student is not fluent in the language of instruction, for example, English, he/she may tend to be identified by this aspect with a negative connotation, such as "the young man with a heavy Jamaican accent". Instead, one could rightly say "the young man from Jamaica". The latter would be less derogatory and more acceptable in a diverse setting, especially a learning environment. Research has indicated that children that were put down by their peers or their teachers tended to have low self concept (Mushi, 1999 a)

It is also possible that the minority student will bring to campus a comparative aspect of financial capability. University education is expensive. Students are required to buy textbooks that are expensive in university bookstores, and they may need to buy other requirements for courses or projects in addition to paying their tuition fees and meeting other miscellaneous financial needs. Minority students tend to face financial problems, some of which may affect their learning seriously.

Some minority students bring to campus very different cultures - how they interact with other students or their professors and other university personnel, how they study in class and outside class, their priorities, their verbal communication - how directly or indirectly they make statements, non-verbal communication, how they respond to class assignments, how they cope with being different in the university community, etc. On the one hand,

it is unrealistic on the part of professors to try to understand the culture of every minority student on campus (Mushi, 1999a). On the other hand though, *it is necessary to assume differences*, and be open for clues that might indicate whether the differences are enhancing or limiting learning. Any good teacher, irrespective of level of teaching, will constantly absorb feedback from learners and utilize the feedback to inform teaching. Good teachers constantly *clean up* their teaching. An important way to "clean up" one's teaching is to try as much as possible to minimize any negative factors that stay in the way of a student's effective learning. *A good teacher teaches every student, not a group of students*. Feedback from each and every student is important, and it helps the teacher to plan and teach better - that one student, in the context of the entire group. Teaching every student in the context of an entire group with a myriad of differences from many perspectives, is not an easy task. Learning about one's teaching in relation to every student's learning is a promising starting point.

In this study, the researcher sought to learn the strategies that helped each student learn best, given that student's unique individual background and the self-perception of being a minority in a mainstream university community. Convergence of strategies that worked for many minority students in different universities located in different countries and continents was indeed a good surprise to the researcher. Sharing those strategies with other university professors is what the researcher could give back to the teaching/learning profession.

Purpose of the Research

The purpose of the study was to explore and document useful strategies and types of interactions that facilitated effective learning among minority students pursuing graduate and undergraduate programs in the mainstream contexts of their universities. The researcher studied how minority students perceived their university campuses, their perceptions of classroom teaching

in relation to their learning, common factors that had impact on their learning and how they dealt with them. The major research question was ***"what teaching strategies and interactions make it possible to connect the experiences of minority students to their university curricular in ways that meaningful learning occurs?*** Drawing from experiences in teaching graduate and undergraduate students from different universities in different countries (Canada, the United States and Tanzania) the researcher experimented with, and documented, the different teaching strategies and how they affected learning among the minority students.

METHOD

Design of the Study

The researcher approached the study from a naturalistic perspective. Students were studied in their natural contexts without much additional interference. However, a considerable amount of time was taken outside class to respond to interview questions and participate in informal discussions. The study was exploratory in nature. With little or no available literature on the teaching of minority students at university level, the researcher designed the study with open-mindedness to capture any strategies that featured as enhancing learning among the minority students.

Student Characteristics

Graduate and undergraduate students studying in several universities participated in the study. Canadian and United States participants were potential teachers of young children, while the Tanzanian participants were mainly elementary school teachers and teacher education colleges tutors. While all the students spoke English as a second or as a foreign language (Berns, 1990; Mushi 1996), some had native speaker proficiency. Some had

had work experiences elsewhere before they joined the university programs - they were teachers, clerks, accountants, librarians, business managers, and child care workers. Others had hotel experiences, recipe expertise, hand craft/artistry and music experiences. They ranged in age between 22 and 45 years.

Eleven groups of undergraduate students and six groups of graduate students were involved in the study over the seven years period. The number of students per group at the undergraduate level ranged between 11 and 25; and between 7 and 29 per group at the graduate level. Five groups were studied in Tanzania in 1993, two in Canada in 1994 and 1995, and ten were studied in the United States between 1996 and 2000. Table 1 and Table 2 provide this information. A few of the groups were entirely composed of minority students, while the majority were mixed, with students from many different backgrounds in terms of language, physical features cosio-economic status, work experience and culture. The overall ratio of women to men who participated in the study was 6:1. However, in Tanzania alone, the ratio of women to men was 1:10.

TABLE 1: GROUPS STUDIED

	Year	Undergraduate Groups	Graduate Groups	Total	Women to Men Ratio
Tanzania	1993	4	1	5	1.4
Canada	1994-1995	1	1	2	5:3
United States	1996-2000	6	4	10	18.1
Total		11	6	17	

TABLE 2: STUDY PARTICIPANTS

	Year	Undergraduate Groups	Graduate Groups	Total	Women to Men Ratio
Tanzania	1993	9	5	14	1.10
Canada	1994-1995	12	9	21	5:3
United States	1996-2000	35	17	52	3.1
Total		56	31	87	

Data Collection and Analysis

Data were collected through formal and informal observations, formal and informal discussions, unstructured interviews and student questionnaires. The data collected included hand-written notes, ratings of different teaching/learning strategies and self-perceived English proficiency, audio-recordings of students' concerns about their own learning and suggestions to instructors. The data were collected over a seven-year period from a total of seventeen groups. Data analysis went hand in hand with data collection. As soon as the class period was over, if any data were collected (through observation), they were written in the form of notes. These notes were brief descriptions of the strategies used, or the interactions carried out, and the learning outcome - students' comments on their own understanding of what was being taught. The data were organized in emerging themes. Some emerging themes did not last long. They faded out while new themes emerged. In September 1998, the researcher organized the themes that had

been able to stand the test of time, and tested them. The themes were tested by interviewing students about their learning strategies, issues and concerns, given their self-perceived minority status in a university macro culture.

FINDINGS

The major findings of the study are subdivided into three categories, students' perception of the university environment, students' perceptions of themselves as university students, and strategies that proved to be most effective in facilitating learning among the minority students.

Minority Students' Perception of the University Environment

Minority students perceived the university environment as a very formal place for learning. The following are verbatim expressions of how students who defined themselves as minorities perceived their university campuses:

a. "It is getting better. I was scared at first but now I have a few friends in my situation and we talk things out"
b. "Everyone is so busy. Nobody can help you with anything"
c. "I like the campus. It is very welcoming but the work is overwhelming"
d. "The professors are very helpful, but you don't now what they really want."
e. "This is a good school. I enjoy coming here. I wish there were more professors like..."
f. "I take public transportation to come to school three times a week. It is very hard. When I get here, I am tired. I cannot pay attention"
g. "I wish there were more evening classes. In the evening I can come"
h. "I wish the school had buses to help people like me - I don't drive"
i. "As a black male, older man, I feel very isolated. I don't see many students or professors like me here."

Minority Students' Perception of Themselves as University Students

In Tanzania, minority students perceived themselves as equal members of the university population. They would repeatedly make statements like "kila mtu ana haki sawa" meaning "we all have equal rights", or "kila mtu hapa anakufa lwake" meaning everybody here must try very hard.
However, sometimes they tended to express feelings of inferiority such as "sinema ni za wenye hela", meaning only the rich can go to the movies, or "sisi tuliotumwa na kijiji lazima tujitahidi sana", meaning "those of us who were sent here by the village must work harder" as a metaphor for "depending on collective efforts" rather than individual resources. On the whole, Tanzanian students were only concerned about not having as much money as their "richer" counterparts. Their perceived inferiority was therefore purely economic.

In the United States and Canada however, minority students were more conscious of being minorities in several ways. They believed they were minorities in terms of physical appearance, language, socio-economic status and the neighborhoods in which they lived. Their self-perceptions within the university campuses were evident in phrases like: "the Spanish girl in class who is fluent in English", or "in my neighborhood you cannot be on the street after midnight", or "don't come to my house, I live in the X neighborhood" or "I am not like the other students, I work three jobs to support my studies and my family". The following verbatim excerpts (with a few grammatical errors corrected) highlight students' concerns:

a. "It is hard here. It is not easy for me to understand the professor's intentions. I just try"
b. "I have learned so much in just one semester. You don't take things for granted here, you have to work really hard..."
c. "Sometimes I feel left out in class. The language is the big problem"

d. "I want to learn how to write in English but professors think I know"
e. "I read a lot everyday but I don't understand. Class discussion helps me a lot. In other classes, no discussion."
f. "I have to write in my language and then change it to English. It takes a long time"
g. "Now I know what my son felt when he started going to school here. He was eight years old and everyday he complained he did not understand the teacher. Now he is the one who helps me."
h. "It is not easy for me here. I cannot talk in class because my accent is so bad"
i. " Some professors think I am stupid because my accent is bad. But I know what I am saying. They don't understand."
j. " I understand the lecture. The problem is that I have to write it in my language first. I make lots of mistakes".
k. " I discuss my work with other (X culture students). It helps me understand."
l. "If we write more in class, I understand."
m. "I did not like the attitude of the professor. It's not like in our education classes. He thought I was stupid"
n. " The professor does not even notice me."
o. "In my X classes I think the professor does not even see me when I raise my hand to answer a question. I quit trying."
p. "I like my education classes. In the other classes the professor does not even see I am in class."

Useful Strategies

The following is a concise list of effective learning strategies from the point of view of the minority students:

a. knowing what to expect from the professor - connecting to the instructor
b. relating their experiences to the content being taught
c. learning for a purpose - immediate practical application of what is learned

d. working with a partner in class
e. audio-recording themselves and listening to how they sound
f. audio-recording the professor in order to play back many times
g. take-home assignments
h. individual support from instructors outside class time
i. a close match between textbooks and other course material
j. group interaction in the classroom
k. use of visual materials to accompany explanation
l. broad understanding of the concept of language - as a tool for learning
m. class discussion led by the instructor
n. relating discussion to real life experiences - use real life examples
o. learning by doing in class - hands-on approach
p. action research and discussion in class - having students find out more about a real problem and how to solve it, then present it in class
q. structure and early planning by the professor
r. format for assignments and scoring criteria
s. self evaluation and peer evaluation
t. frequent, genuine feedback,
u. professor's understanding of students' individual circumstances
v. giving clear instructions repeatedly
w. summarizing main points in class
x. short lectures - avoiding long, uninterrupted lectures
y. instructor flexibility - different and interesting teaching strategies

DISCUSSION

This discussion synthesizes the important findings of the study under three subheadings: common goals of students and the institutions, strategies worth trying out, and emerging theories to guide effective teaching of minority students on mainstream university campuses.

Common Goals of Minority Students and the Institutions:

At a general level, it was apparent from the study that the institutions expected minority students to learn effectively. This implied mutual understanding, provisions that met the needs of individual students and institutions, fair assessment and evaluation of what was learned. On the other hand, it was clear that expectations of both parties were not always met. The researcher tried out teaching strategies, thinking they would work, but she changed them as there was evidence that they did not work.

Each learner was unique in terms of cultural background, learning styles and strategies, immediate needs and priorities, their perception of the learning environment, and how they related to different people in the learning situation. It was not easy for the researcher to come up with a set of strategies that would "certainly work" with individuals or groups. However, there were more similarities than differences in the strategies that the researcher found useful in helping her minority students learn effectively. While institutions may have the same overall goal as the minority students (i.e. minority students' effective learning), the professors' style and classroom practices are what eventually determine if effective learning occurs.

Emerging Theories

Open-door Equity Theory

In principle, the minority students felt they were welcome to their institutions. However, it was clear that in practice they had to adjust themselves to fit in an environment that was not very well designed for them. Students' feelings of being left out, or wishing the schedule was different, justifies this. It would be unrealistic for each student to assume schedules would fit perfectly with their personal needs. The need to make choices is necessary in an

academic environment where the academic community strives to meet the needs of thousands of students and workers.
However, the economic factor seemed to emerge in all three contexts studied. Students from less advantaged economic backgrounds faced additional challenges to those faced by peers. Issues of transportation to school, money to buy required textbooks and other materials were prominent among the minority students studied, as they compared themselves with their mainstream counterparts. Linguistic barriers to understanding the organizational culture, feelings of not belonging in the same way as mainstream students, featured as barriers to open door equity, where the minority students would feel as welcome in all aspects as their mainstream counterparts.

The researcher's effort to openly discuss in class at a general level some of the cultural, linguistic, psychological, financial and even emotional barriers that might face some individuals, helped in highlighting the minority students' personal circumstances and the sacrifices they might need to make in order to interact more effectively with the mainstream culture of universities. Students participated actively with enthusiasm, and provided examples of their own experiences regarding what was being discussed.

Open-door equity would be realistic if minority students felt as comfortable as the mainstream students, after they have been accepted to the university. The researcher suggests that institutions can increase their "open-door equity" by helping minority students realize the practical situations they have to function in to get acquainted with their academic journeys. This *open-door equity,* as an emerging theory, can best be exercised at individual level, rather than institutional policy. This would help each minority student to feel that he/she is welcome in the learning environment in ways that he/she understands and can function in, and increase the potential to succeed academically.

Connectivity Equity Theory

The process of teaching and learning is a process of communication. Communication is intended to connect thoughts, to influence action on the part of the receiver of the message. In fact, unless meanings are exchanged in the communication, effective communication has not taken place. The author perceives three levels of verbal communication:

a. communication as exchanging words
b. communication as exchanging messages
c. communication as exchanging meanings

Until meanings are exchanged, it will not be possible for one party to influence action on the other party. In a classroom situation professors may not always exchange meanings with their students, especially when they are from very different cultural and linguistic backgrounds.

The proposed *connectivity theory* emphasizes the need to exchange meanings in the process of communication in teaching. Professors need to understand the contexts in which minority students are processing the information shared during classroom interactions. The researcher's experiences in working with both minority and mainstream students helped her understand majority-minority issues from both ends. Some of the study participants happened to be "minorities" in the same situation where the researcher was perceived as a member of the "majority" group. Others were minorities in situations that the researcher was also a minority. This experience was useful in understanding minority students' difficulty to *connect* to what was being said or done, especially in informal situations where not everything was written down clearly.

The researcher *connected* to the minority students by providing in different ways that she thought were worth trying out:

a. providing time in class to discuss what students thought they understood from lectures and class interactions

b. aligning class assignments to students' experiences - giving each student (minority or not) an opportunity to relate theory to their own reality in the contexts in which they lived
c. incorporating flexibility in the ways in which students could experience learning
d. emphasizing practical, real life examples
e. separating *form* (language) from *content* (concepts) in order to pinpoint the possible primary barriers to effective learning in class - example: if the student had difficulty with timely cognitive processing the researcher tried to find out if more time would help. If the student had difficulty understanding the language or technical terms used in class, the researcher (professor) could draw a picture, act it out, or allowed for a translation or explanation from another student from the same culture.

The researcher also had an opportunity to deal with the problem of connectivity from the other end. As a minority professor, the researcher tried to make sure she connected effectively to the ways of understanding of the mainstream students. Class discussion, real life examples, seeking information directly from other faculty and students were invaluable tools to understanding the mainstream culture so that she could communicate effectively with her mainstream students. Therefore, the connectivity equity theory being proposed worked both ways.

The researcher is proposing this *connectivity equity theory* to encourage other professors to *listen more* to minority students and to make sure the professors *connect* to these students' ways of understanding, in order to facilitate effective communication in classroom interactions. This would help in understanding minority students just as professors understand mainstream students. It would avoid making wrong assumptions about the entire group of learners. Overall assumptions about the group will be detrimental to effective learning of the minority students who the professor may not understand very well.

Feedback Equity Theory

The researcher is proposing a *Feedback Equity Theory* to encourage other professors to view assessment of learning in a broad perspective. Giving every student an opportunity to demonstrate how they understand what they understand, will help professors crosscheck the *connectivity* - if it has happened, and to what extent. The researcher used several strategies that she thought would be worth trying by other professors:

a. She employed a very systematic method of evaluating each student's learning - assignments were given on the first day of class, they are included in the syllabus so that students could refer to them any time, and they were discussed in class from time to time.
b. The researcher also provided scoring criteria for the assignments so that students would know exactly what they were supposed to do to complete the assignments.
c. The researcher provided flexibility - she designed class assignments in ways that students could incorporate their own backgrounds and use real life situations in completing the assignments
d. The researcher required written feedback more than verbal feedback - short essays rather than explanations, so that she could assess the process of thinking as well as the student's meta-cognitive capabilities. Each student collaborated with two or three others to formally present to the entire class what they, as a group, thought they were contributing the class learning. This way each student had to think about her/his own work, about the group work through collaboration, and talk about it in a summary form in class, while keeping time and being graded by peers.
e. She maintained very high standards that all students were expected to meet, without excuse - although some had to work more or harder to do well in the assignments depending on their personal circumstances. As long as the students were aware of why they had to put in extra effort they were willing to do it - e.g. re-writing assignments, learning the mechanics of

formal writing in English, learning a new software, making consultations with the professor.

f. Self evaluation was another strategy that seemed to work well with all students, especially the minority students. Examining one's own work from a critical perspective - knowing there would be an opportunity to make it better was very educational to the students themselves and highly informational to the researcher. This reduced anxiety about being assessed, and seemed to promote self confidence.

The *Feedback Equity Theory* is, in the first place, a realization that students learn in different ways, they have different motivations for approaching learning the way they do, and they deserve the right to do so. Secondly, the theory is a recognition of the myriad of ways in which effective learning can be demonstrated without losing the core concept/skills being taught. Thirdly, the theory underscores the fact that classroom learning is of little use if it cannot be applied outside class, in real life situations, and in that particular learner's contextual circumstances. Finally, the theory optimizes fair grading in the course.

CONCLUDING REMARKS

Those of us who teach, continue teaching even when we may have doubts whether learning is taking place. These are not isolated cases. Since the best lessons about teaching are our own, in our own classrooms, utilizing these lessons effectively is the only way we can look forward to the type of teaching in which we will have little or no doubt that effective learning is taking place among all our learners. The joy of helping a student make a leap from a state of *not knowing* to a state of *knowing better*, is the most powerful force behind our willingness and readiness to learn from our own teaching practices.

Learning from our students is key to teaching. There are many important teaching pre-requisites we need to learn from our students. These pre-requisites form a continuum from simple things as: whether our students hear us, whether they see us; to more complex factors such as whether they attach the same meaning we do to our words, whether they feel active or passive in our classes, whether they can use the skills we teach, given their personal circumstances. "Teaching a group of students" is more likely than not, teaching without connecting to any of the students. An underlying blanket assumption about the group will guide the teaching. When this assumption is wrong to a certain extent, connectivity to individuals is reduced or even eliminated. Teaching without connecting the knowledge or skill to the student's own ways of knowing, is bypassing that student, and more often than not, it is the minority student.

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